

REVISION OF THE SOUTH AMERICAN GENUS *HELLICA* STÅL (HETEROPTERA: ACANTHOSOMATIDAE)

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The two new species described in this paper are dedicated to Dr. John T. Polhemus in recognition of his numerous contributions to entomology, especially for the aquatic and semiaquatic Heteroptera, and as a salute for the decades of our friendship.

Two emendations are proposed: Spelling of *Blaudinae* for Kumar's (1974:4, 18) subfamily "Bladusinae" and *Blaudini* for his (1974:18, 19) tribe "Bladusini," both having been based on the genus *Blaudus* Stål (1872:61).

Measurements are given in millimeters.

Genus *Hellica* Stål

Fig. 1

Hellica Stål, 1867:533.

Type-species: *Hellica nitida* Haglund, by subsequent monotypy.

Diagnosis. Among those genera of the tribe Lanopini Kumar (subfamily *Blaudinae*, emended spelling) with *juga* not surpassing the *tylus* and *humeri* not projecting beyond the outline of the *costa*, *Hellica* is recognizable by the very short *peritreme* that is virtually no longer than wide.

Discussion. Kumar (1974:28-29) based his redescription of this genus on Haglund's two males of *Hellica nitida*, which he designated lectotype and paralectotype, and remarked that females were unknown. For the present study, females were available for all three species at hand; all were found to have the Pendergrast organ present (Figs. 3, 5, 7) and restricted to the anterior half of abdominal segment VII (last pregenital segment). The male genital capsule is here shown in dorsal view with the parameres in their natural position (easily seen by gently lifting the apex of the hemelytral membrane).

Distribution. Argentina, Bolivia, and Brazil.

KEY TO SPECIES OF *HELLICA*

1. Abdomen ventrally dark brown to black with broad lateral margins abruptly yellow. *Tylus* weakly but noticeably surpassing apex of *juga*, weakly tumid, not depressed subapically 2
- Abdomen ventrally yellow to tan with punctures and a variable sublateral longitudinal stripe on each side fuscous to brown. *Tylus* reaching apex of *juga*, weakly but noticeably depressed subapically *johni* new species
2. Male: Genital capsule with apical margin weakly but distinctly broadly bilobed in middle third, its dorsal setae scattered as in Fig. 4. Female: 3rd genital plate laterally,

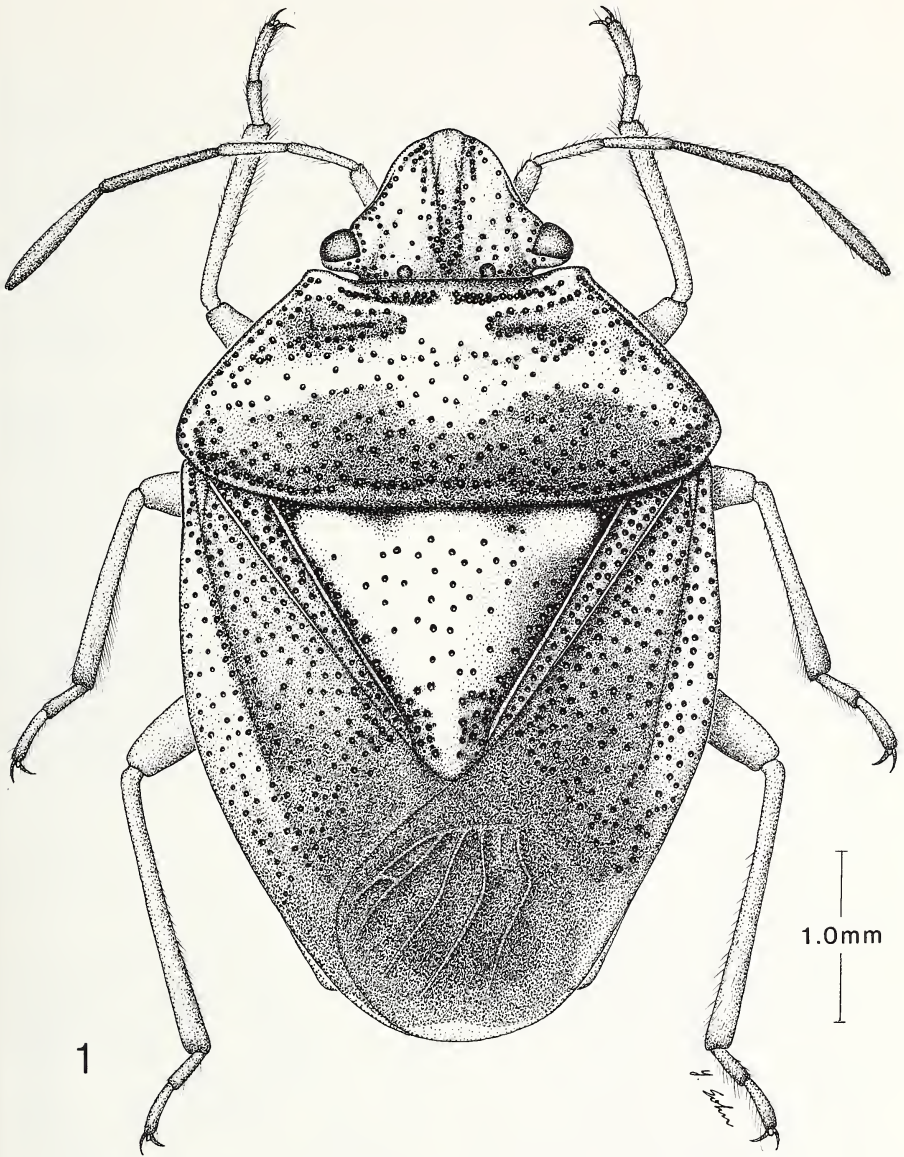


Fig. 1. *Hellica nitida* Haglund. Dorsal view.

overlapping end of 2nd genital plate and in contact with basal genital plate as in Fig.

5 *johnpolhemi* new species

– Male: Genital capsule with apical margin not bilobed in middle third, its dorsal setae

grouped as in Fig. 6. Female: 3rd and 2nd genital plates exposed to lateral ends as in

figure 7 *nitida* Haglund

Hellica johni, new species

Figs. 2, 3

Diagnosis. Abdominal venter yellow, with a tapering, longitudinal fuscous area of varying width on each side; the other two members of the genus have the abdomen black except for the abruptly delimited yellow lateral margins.

Description. (based on holotype male). Oval; length 5.2; width 2.9. General color yellow to brownish yellow, with calloused yellow areas and numerous mostly irregularly distributed brown punctures. Hemelytral membrane hyaline with some veins brownish. Venter yellowish, except for large brown areas each side of pale midline on visible segments II-IV, with numerous brown punctures except on calloused areas. Legs unicolorous brownish yellow; middle and posterior femora with a vague, brownish blotch near apical fourth of anterior face.

Head across eyes slightly wider than long, 1.2:1.0; preocular margin weakly elevated, abruptly concave a very short distance anterior to eye. Tylus flat, slightly depressed subapically, very slightly surpassing apex of juga, sides subparallel on apical half. Juga vaguely impressed apically. Antennal segments I-V in the ratio 0.26:0.43:0.30:0.46:0.54; first segment short, not reaching apex of head. Bucculae distinct, as long as labial segment I, abruptly terminated at narrowly conjoined posterior ends. Labium reaching anterior margins of middle coxae, apical segment black; segments I-IV in the ratio 0.43:0.55:0.27:0.27.

Pronotum more than twice as wide as midlength, 2.91:1.18; anterior margin deeply concave; lateral margins, except anterior fourth, nearly straight, humeri obtusely rounded, not prominent; disc with narrow, irregular, transverse calloused areas anterior and posterior to calli, some broadly joined between calli. Anterior half of posterior pronotal lobe with a broad, transverse calloused area; spaces between callouses with numerous brown punctures.

Scutellum shorter than basal width 1.36:1.67, yellow, with a vague, triangular brown spot basally on each side of midline and vaguely brownish each side near apex; surface with numerous irregularly scattered brown punctures, those along lateral margin forming a close-set row; apex narrowly rounded.

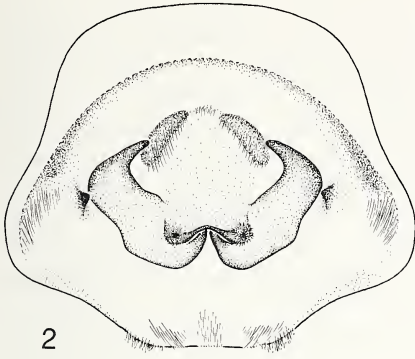
Hemelytron with costal outline gently convex. Corium nearly wholly yellow, subhyaline, with numerous slightly brownish punctures, latter slightly more dense on exocorium; apical margin of corium virtually straight. Membrane slightly surpassing apex of abdomen, hyaline, veins faintly darker; with a faint, brown, narrow line from midpoint of corium to apex of membrane.

Prosternum convex, neither grooved nor elevated. Ventral midline of thorax without elevated carinae. Metapleuron with ostiolar pore virtually on a line connecting basal limits of the middle and posterior acetabulae; peritreme very short, about as long as wide. Evaporative area restricted to a narrow halo around the peritreme, not approaching posterior flange of metapleuron.

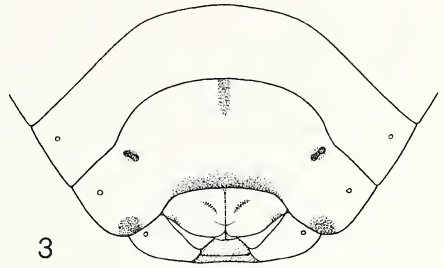
Genital capsule and parameres in dorsal view as in Fig. 2, setae along posterior margin grouped in loose patches.

Legs concolorous brownish yellow, each femur with a vague, brownish blotch near apical fourth of anterior face.

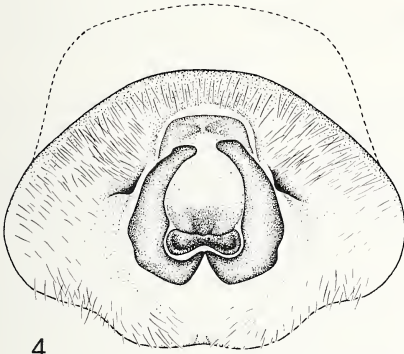
Female. Similar to the male. Last pregenital segment (Fig. 3) with posterior margin



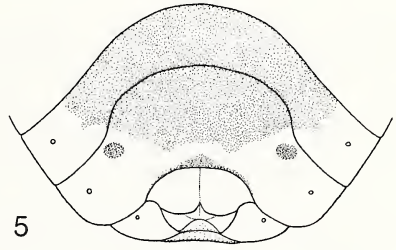
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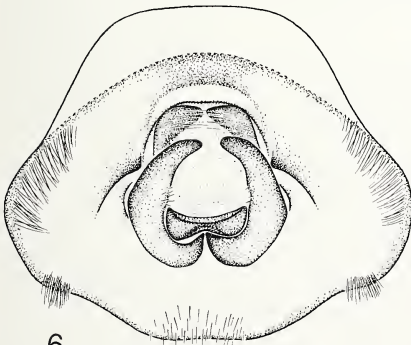
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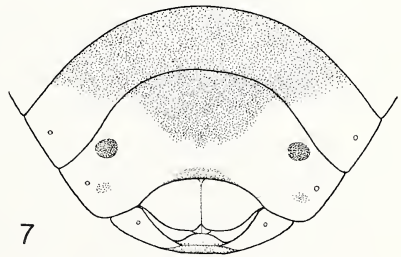
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6



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Fig. 2. *Hellica johni* n. sp. Dorsal view of male genital capsule.

Fig. 3. *Hellica johni* n. sp. Ventral view of apex of female abdomen.

Fig. 4. *Hellica johnpolhemi* n. sp. Dorsal view of male genital capsule.

Fig. 5. *Hellica johnpolhemi* n. sp. Ventral view of apex of female abdomen.

Fig. 6. *Hellica nitida* Haglund. Dorsal view of male genital capsule.

Fig. 7. *Hellica nitida* Haglund. Ventral view of apex of female abdomen.

broadly concave, virtually transverse in middle third. Lateral end of second plate not covered by third genital plate.

Types. Holotype male. ARGENTINA, Provincia de Buenos Aires, Juan B. Daguerra, 1968; collection J. Daguerra (National Museum of Natural History). Paratypes: ARGENTINA: 1 female, Formosa, Clorinda, XI.950, Daguerra; 1 male, 4 females [carded on 1 pin]; Bs. As, San Fernando, II.954, Daguerra; 1 male, 4 females (carded on one pin) same data as holotype. URUGUAY, 1 male, 1 female, Montevideo, Uruguay, Parker, 837-38, 45-14929 (all in National Museum of Natural History).

Discussion. Lengths of males vary from 5.0-5.3; of females from 4.7-5.6. The labium of one of the paratypes is slightly longer than that of the holotype and actually extends between middle coxae. The preapical flattening of the last pregenital segment of the paratype is a little stronger than that on the holotype.

Etymology. This new species name is derived from the given name of Dr. John T. Polhemus.

Hellica johnpolhemi, new species

Figs. 4, 5

Diagnosis. From the other two species in *Hellica* this one can be readily recognized by the mostly black abdomen (except lateral margins) and presence of two (usually joined) black blotches at base of scutellum or by conveniently available characters in each sex: in the male the apical margin of the genital capsule is broadly and shallowly bilobed in the middle third (Fig. 4); in the female the posterolateral margin of the third genital plate is convexly rounded, covering the lateral end of the second genital plate and slightly overlapping the posterior lateral angle of the basal genital plate (Fig. 5).

Description. Holotype male: Oval; length 6.2, width 3.5. General color dorsally yellow to tan with fuscous punctures; head basad of ocelli narrowly black; each pronotal callous with a transverse, anteriorly concave black line; base of scutellum with a conspicuous black blotch on each side of middle, these usually narrowly joined across midline, outer margin narrowly black almost to apex; clavus and mesocorium translucent, darker than opaque yellow exocorium; hemelytral membrane brownish. Ventrally black except for yellow on head, first 3 segments of labium, acetabula, legs, margins of abdomen, and genital capsule.

Head across eyes wider than long: 1.6:1.1; preocular margin weakly elevated along preocular concavity. Tylus weakly tumid, side diverging from near base, apex broader than and faintly surpassing apices of juga. Antennal segments I-V in ratio 0.32:0.50:0.40:0.72:0.81; segment I not reaching apex of head. Bucculae slightly surpassing apex of labial segment I, abruptly terminated posteriorly. Labium reaching between middle coxae; segments I-IV in ratio 0.60:0.67:0.38:0.31.

Pronotum slightly more than twice as wide as midlength, 3.5:1.5 anterior margin strongly concave; lateral margin nearly straight, apical and humeral angles rounded; disc with narrow transverse calloused area enclosing calli; posterior lobe slightly darker than anterior lobe, with numerous well-separated darkened punctures.

Scutellum as wide as long, 2.0:2.0; disc with scattered fuscous punctures; punctures along lateral margin forming a close-set row; apex narrowly rounded.

Hemelytron slightly surpassing apex of abdomen, costal margin weakly convex.

Abdomen polished, impunctate on middle third and lateral margins. Genital capsule, with parameres, as in figure 4, setae along apical margin scattered, not arranged in discrete patches.

Distribution. Known from Argentina, Brazil, and Bolivia.

Types. Holotype, male, BOLIVIA, Quime, 10,000 ft. Mulford Biological Exploration, 1921–22, Wm. Mann (National Museum of Natural History). Paratypes: same data as for holotype; 2 males, 1 female, ARGENTINA: Terri. [tory] Formosa, Gran Guardia, II-2-1953, Juan Foerster, J. C. Lutz collection 1961, 1 female; BRAZIL, Tafe del Valle, Quebradada la Angostura, 26-II-53, 1800 m., J. Herrera (U.S. National Museum of Natural History).

Discussion. The above general descriptive characters apply to both sexes. The paratypes are slightly larger than the holotype: males, 6.1–6.2, females, 6.3–6.5.

Because there were no males and females bearing the same locality data, there is a possibility they are improperly associated here, but the presence of the large, black, basal blotches on the scutellum of both sexes (absent on all available specimens of the other two species) was used as a convenient character for associating them.

This species name is formed from the two names of Dr. John T. Polhemus.

Hellica nitida Haglund

Figs. 1, 6, 7

Hellica nitida Haglund, 1868:161 [Brazil]. Lectotype chosen by Kumar, 1974:281.

Banasa pulchella Berg, 1884:101 [Uruguay]. Synonymized by Thomas and Yonke, 1990:657.

Discussion. The narrow yellow margins of the extensive black area of the abdomen plus the wholly yellow scutellum will permit ready recognition of this species.

In addition to examining the two male types of *H. nitida*, numerous other specimens of both sexes from southern Brazil and the northern half of Argentina (Province of Buenos Aires and the Territories of Formosa and Misiones) were available for study.

Study of three of the six specimens from the type series of *Banasa pulchella* (Museo de La Plata, La Plata, Argentina) confirmed Thomas and Yonke's (1990: above) synonymizing this name with *Hellica nitida*; those specimens included two males glued to one rectangular card and one female glued to another card. The male double mount bore four labels: (1) (a) "B.O. San Juan"; (b) "Speg. II 84"; (2) "typus"; (3) an identification label in Berg's handwriting, "*Banasa pulchella* Berg"; and (4) a circle of blue paper marked "/1-2" and "1408." The left male is here designated lectotype and "lecto" was written on the card behind it. The other male is designated a paralectotype, as is the female on the other mount. The pin for the female mount (remounted on a cardboard point to permit viewing ventral structures) bore three labels, the same as 1, 2, and 4 above; to these was added a paralectotype label.

ACKNOWLEDGMENTS

Special thanks to Mr. Young Sohn, Illustrator in the National Museum of Natural History, Department of Entomology, for the fine drawings. Thanks also to Drs. Thomas J. Henry,

Systematic Entomology Laboratory, U.S. Department of Agriculture, % National Museum of Natural History, Washington, D.C. and Donald B. Thomas, Subtropical Agriculture Research Center, U.S. Department of Agriculture, Weslaco, Texas, for careful and helpful reviews of the manuscript.

LITERATURE CITED

- Berg, C. 1884. Addenda et Emendanda ad Hemiptera Argentina. An. Soc. Cient. Argent. 17(1): 105-125.
- Haglund, J. C. E. 1868. Hemiptera nova. Stett. Entomol. Zeitg. 29:150-163.
- Kumar, R. 1974. A revision of the world Acanthosomatidae (Heteroptera: Pentatomidae): keys to and descriptions of subfamilies, tribes and genera, with designation of types. Aust. Sci., Suppl. Ser. No. 34:1-69 [A corrected title page was issued and changed the word "Pentatomidae" to "Pentatomoidea"].
- Stål, C. 1867. Bidrag till Hemipterernas Systematik. Öfv. Kongl. Sven. Vet.-Akad. Forh. 24: 491-560.
- Stål, C. 1872. Enumeratio Hemipterorum. 2. Kongl. Svens. Vet.-Akad. Handl. 10:1-159.
- Thomas, D. B. and T. R. Yonke. 1990. A review of the genus *Banasa* (Hemiptera: Pentatomidae) in South America. Ann. Entomol. Soc. Am. 83:657-688.